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PB-265 004

**Algal Nutrient Availability and Limitation in
Lake Ontario during IFYGL. Appendices to Part III.
Algal Nutrient Limitation in Lake Ontario during IFYGL**

Texas Univ. at Dallas, Richardson. Ctr for Environmental Studies

Prepared for

Environmental Research Lab, Duluth, Minn.

Mar 77

ALGAL NUTRIENT AVAILABILITY AND LIMITATION
IN LAKE ONTARIO DURING IFYGL

Appendices to
Part III. Algal Nutrient Limitation in
Lake Ontario During IFYGL.

by

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SPRINGFIELD, VA. 22161

TECHNICAL REPORT DATA (Please read instructions on the reverse before completing)		
1. REPORT NO. EPA-600/3-77-046b	2.	3. RECIPIENT'S ACCESSION NO.
4. TITLE AND SUBTITLE ALGAL NUTRIENT AVAILABILITY AND LIMITATION IN LAKE ONTARIO DURING IFYGL. Appendices to Part III: Algal Nutrient Limitation in Lake Ontario During IFYGL		5. REPORT DATE March 1977 issuing date
7. AUTHOR(S) Nagalaxmi Sridharan* and G. Fred Lee		6. PERFORMING ORGANIZATION CODE
9. PERFORMING ORGANIZATION NAME AND ADDRESS Center for Environmental Studies University of Texas at Dallas Richardson TX 75080		8. PERFORMING ORGANIZATION REPORT NO.
12. SPONSORING AGENCY NAME AND ADDRESS Environmental Research Laboratory-Duluth Office of Research and Development U.S. Environmental Protection Agency Duluth MN 55804		10. PROGRAM ELEMENT NO. 1BA608
		11. CONTRACT/GRANT NO. Contract R-800537-02
		13. TYPE OF REPORT AND PERIOD COVERED Final
		14. SPONSORING AGENCY CODE EPA/600/03
15. SUPPLEMENTARY NOTES *University of Wisconsin, Madison WI 53706		
16. ABSTRACT This study was conducted on the potential significance of nitrogen, phosphorus and micronutrients in limiting planktonic algal growth in Lake Ontario and its major tributaries. Standard algal assay procedures were used. Samples of the open waters of Lake Ontario and Niagara River waters collected during the spring showed phosphorus limitation. By late summer these waters showed both nitrogen and phosphorus limitation. Genesee and Oswego Rivers showed, in general, nitrogen limitation. Samples of the Black River waters showed both nitrogen and phosphorus limitation. This portion of the report includes the appendices for Part III of this study published separately by the Environmental Protection Agency. Appendices include (1) algal bioassays for Lake Ontario water; (2) algal bioassays for Niagara River waters; (3) algal bioassays for Genesee River waters; (4) algal bioassays for Oswego River waters; and (5) algal bioassays for Black River waters.		
17. KEY WORDS AND DOCUMENT ANALYSIS		
a. DESCRIPTORS Nitrogen Phosphorus Plankton Nutrients	b. IDENTIFIERS/OPEN ENDED TERMS Lake Ontario	c. COSATI Field/Group 06C, F 08H
18. DISTRIBUTION STATEMENT RELEASE TO PUBLIC	19. SECURITY CLASS (This Report) UNCLASSIFIED	21. NO. OF PAGES 88
	20. SECURITY CLASS (This page) UNCLASSIFIED	22. PRICE PC A05-MFA01

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Table A.1. ALGAL BIOASSAY, LAKE ONTARIO WATER

SAMPLE No. 3, STATION No. 10

Collected June 26, 1972

CONTENTS	DAYS				
	8	12	14	16	19
Absorbance at 750 nm, 10 cm cell					
Lake Water	0.019	0.025	0.025	-	
	0.032	0.035	0.042	-	
	0.033	0.040	0.051	-	
	0.022	-	-	-	
	0.024	-	-	-	
	0.021	-	0.028	-	
	0.024	-	0.021	-	
	0.031	-	-	-	
	0.033	-	-	-	
	0.027	-	-	-	
Lake Water + 100 P*	0.027	0.099	0.080	0.108	0.093
	0.040	0.055	0.114	0.146	0.128
	0.028	0.108	0.071	0.104	0.093
	0.078	0.092	0.113	0.138	0.120
	0.042	0.056	0.083	0.127	0.104
Lake Water + 1000 N*	0.016	0.050	0.029	-	
	0.018	0.050	0.027	-	
	0.024	0.050	0.027	-	
	0.030	0.058	-	-	
	0.027	0.064	-	-	

* P, N refer to 100 μg P/l, 1000 μg N/l

- No analysis made

Table A.1. (continued)

CONTENTS	DAYS					
	5	8	12	14	16	19
Lake Water + 100 P + 1000 N		0.027	0.087	0.107	-	
		0.041	0.115	0.113	-	
		0.040	0.101	0.087	-	
		0.061	0.140	0.131	-	
		0.048	0.108	0.100	-	
NAAM-P		0	0.018	-	-	
		0	0.018	-	-	
		0	-	-	-	
		0	-	-	-	
		0	-	-	-	
NAAM-P + 100 P	0.096	0.403	0.575	0.618	0.667	0.560
	0.124	0.466	0.710	0.692	0.762	0.690
	0.121	0.480	0.710	0.661	0.738	0.635
	0.011	0.010	-	-	-	-
	0.018	0.006	-	-	-	-
NAAM-N	-	0.006	0.086	-	-	-
	-	0.003	0.028	-	-	-
	-	0.007	-	-	-	-
	-	0.007	0.023	-	-	-
	-	0.004	0.029	-	-	-
NAAM-N + 1000 N	0.264	0.397	0.440	0.470	0.548	0.461
	0.275	0.423	0.430	0.470	0.546	0.459
	0.318	0.422	0.412	0.478	0.528	0.495
	0.238	0.391	0.405	0.471	0.552	-
	0.020	0.011	-	-	-	-

- No analysis made

Table A.1. (continued)

CONTENTS	DAYS					
	5	8	12	14	16	19
Lake Water +	0.059	0.058	0.075	0.082	-	-
1000 N +	0.039	0.058	0.066	0.054	-	-
micronutrient	0.067	0.066	0.070	0.057	-	-
	0.069	0.067	-	-	-	-
	0.072	0.068	-	-	-	-

- No analysis made

Table A.2. AAP BIOASSAY, LAKE ONTARIO WATER

STATION NO. 10

Collected March 5, 1973

CONTENTS	8	12	15	18
Absorbance at 750 nm, 10 cm cell				
Lake Water No. 10	0.025	0.045	0.058	0.055
	-	0.112	0.128	0.145
	-	0.030	0.045	-
Lake Water + 100 P	0.065	0.162	0.160	0.188
	0.075	0.150	0.178	0.175
	0.064	0.132	0.190	0.150
Lake Water + 1000 N	-	0.052	0.084	0.080
	-	0.040	0.048	-
	-	0.075	0.066	0.065
Lake Water + 100 P + 1000 N	0.190	0.430	0.488	0.482
	0.290	0.480	0.548	0.548
	0.200	-	-	-
Lake Water + 1000 N + micro	-	0.050	0.050	-
	-	0.055	-	-
	-	0.038	-	-
Lake Water + 100 P + 1000 N + micro	-	0.385	0.436	0.480
	-	0.370	0.428	0.480

- No analysis made

Table A.3. AAP BIOASSAY, LAKE ONTARIO WATER

STATION No. 10

Collected April 1, 1973

CONTENTS	DAYS		
	7	15	17
	Absorbance at 750 nm, 10 cm cell		
Lake Water No. 10	0.035	0.058	0.063
	0.028	0.057	0.057
	0.048	0.046	0.043
Lake Water + 100 P	0.053	0.138	0.145
	0.112	0.159	0.172
	0.100	0.167	0.181
Lake Water + 1000 N	0.055	0.083	0.087
	0.043	0.047	0.047
	0.069	0.082	0.085
Lake Water + 100 P + 1000 N	0.098	0.159	0.180
	0.054	0.161	0.177
	0.097	0.147	0.157
Lake Water + micro	--	--	--
	--	--	--
	--	--	--
Lake Water + 1000 N + micro	0.065	0.088	0.095
	0.060	0.075	0.079
	0.062	0.067	0.073
Lake Water + 100 P + 1000 N + micro	0.320	0.467	0.515
	0.335	0.463	0.494
	0.363	0.474	0.527

-- The treatment was not included

Table A.4. AAP BIOASSAY, LAKE ONTARIO WATER

STATION NO. 10

Collected May 2, 1973

CONTENTS	DAYS			
	11	13	18	21
Absorbance at 750 nm, 10 cm cell				
Lake Water No. 10	0.105	0.129	0.140	0.155
	0.025	0.057	0.103	0.108
	0.118	0.145	0.170	0.185
Lake Water + 100 P	0.162	0.192	0.208	0.220
	0.161	0.186	0.208	0.220
	0.140	0.167	0.195	0.210
Lake Water + 1000 N	0.110	0.130	0.158	0.173
	0.119	0.136	0.151	0.163
	0.100	0.116	0.134	0.143
Lake Water + 100 P + 1000 N	0.305	0.395	0.530	0.532
	0.290	0.368	0.475	0.500
	0.239	0.302	0.405	0.448
Lake Water + micro	--	--	--	--
	--	--	--	--
	--	--	--	--
Lake Water + 1000 N + micro	0.176	0.195	0.225	0.243
	0.184	0.200	0.208	0.213
	0.209	0.226	0.236	0.240
Lake Water + 100 P + 1000 N + micro	0.494	0.571	0.628	0.610
	0.492	0.575	0.628	-
	0.453	0.550	0.580	0.595

-- The treatment was not included

Table A.5. AAP BIOASSAY, LAKE ONTARIO WATER

STATION No. 10

Collected June 15, 1973

CONTENTS	DAYS		
	9	11	14
Absorbance at 750 nm, 10 cm cell			
Lake Water No. 10	0.003	0.001	0.002
	0.002	0.001	0.002
	-	-	-
Lake Water + 25 P	0.107	0.110	0.118
	0.119	0.116	0.136
	0.080	0.085	0.098
Lake Water + 100 P	0.134	0.124	0.144
	0.127	0.124	0.143
	0.118	0.115	0.135
Lake Water + 250 N	0.009	0.014	0.022
	-	-	-
	-	-	-
Lake Water + 1000 N	0.001	0.004	-
	-	0.003	0.000
	-	-	-
Lake Water + 25 P + 250 N	0.154	0.180	0.216
	0.131	0.148	0.206
	0.116	0.139	0.167
Lake Water + 100 P + 1000 N	0.215	0.252	0.360
	0.199	0.230	0.370
	-	-	-

- No analysis made

Table A.5. (continued)

CONTENTS	DAYS		
	9	11	14
Lake Water +	0.011	0.017	0.023
1000 N + micro	0.001	0.004	0.024
	-	-	-
Lake Water +	--	--	--
100 P + 1000 N + micro	--	--	--

- No analysis made

-- The treatment was not included

Table A.6. AAP BIOASSAY, LAKE ONTARIO WATER

STATION No. 93

Collected August 24, 1972

CONTENTS	DAYS		
	7	11	18
Absorbance at 750 nm, 10 cm cell			
Lake Water No. 93	0.025	0.030	0.040
	0.020	0.033	0.048
	0.015	0.025	0.025
Lake Water + 100 P	0.051	0.065	0.070
	0.049	0.058	0.060
	0.027	0.048	0.060
Lake Water + 1000 N	0.016	-	-
	-	0.023	-
	0.032	0.037	0.045
Lake Water + 100 P + 1000 N	0.064	0.199	0.250
	0.200	0.170	0.275
	0.122	0.266	0.292
Lake Water + micro	0.011	0.018	0.030
	0.012	0.019	0.025
	0.019	0.025	0.033
Lake Water + 1000 N + micro	0.014	0.016	0.021
	0.019	0.017	0.020
	0.000	0.000	0.000
NAAM-P	0.000	0.000	-
	-	0.000	-
	-	0.000	-

- No analysis made

Table A.6. (continued)

CONTENTS	DAYS		
	7	11	18
NAAM-P + 100 P	0.026	0.236	0.230
	0.023	0.213	0.412
	-	-	-
NAAM-N	0.007	0.062	-
	0.078	0.121	-
	0.077	0.111	0.105
NAAM-N + 1000 N	0.115	0.400	0.350
	0.149	0.449	-
	0.142	0.310	0.375

- No analysis made

Table A.7. AAP TEST, LAKE ONTARIO WATER

STATION No. 64

Collected August 23, 1972

CONTENTS	DAYS		
	7	11	18
Absorbance at 750 nm, 10 cm cell			
Lake Water No. 64	0.034	0.043	0.045
	0.027	0.040	0.046
	0.025	0.038	0.040
Lake Water + 100 P	0.038	0.080	0.087
	0.040	0.064	0.075
	0.035	0.057	0.075
Lake Water + 1000 N	0.039	0.048	0.055
	0.024	0.039	0.037
	0.035	0.028	0.028
Lake Water + 100 P + 1000 N	0.095	0.151	0.195
	0.062	0.160	0.215
	0.036	0.099	0.155
Lake Water + micro	0.000	0.003	-
	0.039	0.048	0.053
	0.030	0.038	0.047
Lake Water + 1000 N + micro	0.136	0.172	0.171
	0.038	0.044	0.055
	0.037	0.044	0.053
NAAM-P	0.000	0.000	-
	-	0.000	-
	-	0.000	-

- No analysis made

Table A.7. (continued)

CONTENTS	DAYS		
	7	11	18
NAAM-P + 100 P	0.026	0.226	0.230
	0.023	0.213	0.412
	-	-	-
NAAM-N	0.007	0.062	-
	0.078	0.121	-
	0.077	0.111	0.105
NAAM-N + 100 N	0.115	0.400	0.350
	0.144	0.449	-
	0.142	0.310	0.375

- No analysis made

Table A.8. AAP BIOASSAY, LAKE ONTARIO WATER

STATION No. 75

Collected July 19, 1972

CONTENTS	DAYS						
	6	8	10	13	15	17	
Absorbance at 750 nm, 10 cm cell							
Lake Water No. 1	-	0.025	0.032				
2	0.008	0.025	-				
3	-	0.015	0.010				
Lake Water + 100 P	1	-	0.020	0.020			
2	-	-	-				
3	-	-	-				
Lake Water + 1000 N	1	-	0.013	0.007			
2	-	0.013	-				
3	-	0.013	-				
Lake Water + 100 P + 1000 N	1	0.136	0.255	0.290	0.315	0.385	0.422
2	0.176	0.355	0.420	0.450	0.478	0.495	
3	0.130	0.220	0.-	0.350	0.390	0.412	
Lake Water + micro	1	-	0.025	-			
2	-	0.025	-				
3	-	0.017	-				
Lake Water + 1000 N + micro	1	-	0.017	-			
2	-	-	-				
3	-	-	-				
NAAM-P	1	0.015	0.020	-			
2	-	0.010	-				
3	-	0.007	-				

- No analysis made

Table A.8. (continued)

CONTENTS		DAYS				
		6	8	10	13	15
NAAM-P + 100 P	1	0.250	0.490	0.750	0.850	0.900
	2	0.160	0.375	0.606	0.800	0.850
	3	0.225	0.330	0.550	0.814	0.910
NAAM-N	1	-	-	-	-	-
		-	-	-	-	-
		-	-	-	-	-
NAAM-N + 1000 N	1	0.041	-	-	-	-
	2	-	-	-	-	-
	3	-	0.110	0.224	0.400	0.435

- No analysis made

Table A.9. AAP BIOASSAY, LAKE ONTARIO WATER

STATION No. 75

Collected March 5, 1973

CONTENTS	DAYS			
	8	13	15	18
Absorbance at 750 nm, 10 cm cell				
Lake Water No. 75	-	0.020	-	-
	-	-	-	-
	-	-	-	-
Lake Water + 100 P	0.083	0.125	0.155	0.158
	0.095	0.145	0.165	0.170
	-	-	-	-
Lake Water + 1000 N	-	0.020	0.029	-
	-	-	-	-
	-	-	-	-
Lake Water + 100 P + 1000 N	0.140	0.241	0.428	0.500
	0.300	0.325	-	-
	-	-	-	-
Lake Water + 100 P + 1000N + micro	0.062	0.392	0.390	0.405
	0.025	0.382	-	0.420
	0.062	0.450	-	0.535

- No analysis made

Table A.10. AAP BIOASSAY, LAKE ONTARIO WATER

STATION No. 75

Collected April 1, 1973

CONTENTS	DAYS		
	7	15	17
Absorbance at 750 nm, 10 cm cell			
Lake Water No. 75	0.009	0.015	0.016
	0.004	0.007	0.008
	-	0.007	0.007
Lake Water + 100 P	0.013	0.118	0.137
	0.018	0.125	0.140
	0.013	0.115	0.134
Lake Water + 1000 N	0.003	0.008	0.011
	0.001	0.004	0.006
	-	0.003	0.005
Lake Water + 100 P + 1000 N	0.020	0.156	0.195
	0.052	0.201	0.226
	0.031	0.160	0.187
Lake Water + micro	--	--	--
	--	--	--
	--	--	--
Lake Water + 1000 N + micro	0.003	0.007	0.013
	0.003	0.005	0.007
	-	0.005	0.008
Lake Water + 100 P + 1000 N + micro	0.350	0.448	0.500
	0.340	0.475	0.537
	0.348	0.498	0.580

- No analysis made

-- The treatment was not included

Table A.11. AAP BIOASSAY, LAKE ONTARIO WATER

STATION NO. 75

Collected May 2, 1973

CONTENTS	DAYS			
	11	13	18	21
Absorbance at 750 nm, 10 cm cell				
Lake Water No. 75	0.087	0.100	0.110	0.116
	0.147	0.165	0.173	0.180
	0.137	0.150	0.161	0.168
Lake Water + 100 P	0.184	0.207	0.228	0.236
	0.176	0.215	0.225	-
	0.192	0.219	0.232	-
Lake Water + 1000 N	0.129	0.145	0.168	
	0.174	0.187	0.193	
	0.159	0.185	0.182	
Lake Water + 100 P + 1000 N	0.396	0.500	0.562	
	0.221	0.295	0.375	
	0.394	0.371	0.475	
Lake Water + 1000 N + micro	0.119	0.143	0.170	
	0.145	0.161	0.166	
	0.038	0.046	0.050	
Lake Water + 100 P + 1000 N + micro	0.500	0.600	0.615	
	0.510	0.610	0.615	
	0.514	0.615	0.638	

- No analysis made

Table A.12. AAP BIOASSAY, LAKE ONTARIO WATER

STATION No. 75

Collected June 15, 1973

CONTENTS	DAYS		
	9	11	14
Absorbance at 750 nm, 10 cm cell			
Lake Water No. 75	0.084	0.096	0.115
	0.094	0.071	0.079
	-	-	-
Lake Water + 25 P	0.117	0.118	0.145
	0.144	0.140	0.158
	0.138	0.128	0.148
Lake Water + 100 P	0.181	0.177	0.200
	0.131	0.135	0.148
	0.132	0.135	0.148
Lake Water + 250 N	0.133	0.133	0.144
	0.072	0.076	0.083
	0.023	0.029	0.045
Lake Water + 1000 N	0.080	0.082	0.088
	0.074	0.077	0.085
	0.100	0.096	0.096
Lake Water + 25 P + 250 N	--	--	--
	--	--	--
	--	--	--
Lake Water + 100 P + 1000 N	--	--	--
	--	--	--
	--	--	--

- No analysis made

-- The treatment was not included

Table A.12. (continued)

CONTENTS	DAYS		
	9	11	14
Lake Water + 1000 N + micro	--	--	--
	--	--	--
	--	--	--
Lake Water + 100 P + 1000 N + micro	0.513	0.525	0.546
	0.529	0.540	0.552
	0.498	0.504	0.584

-- The treatment was not included

Table A.13. AAP BIOASSAY, LAKE ONTARIO WATER

STATION No. 45

Collected March 5, 1973

CONTENTS	DAYS			
	8	13	15	18
Absorbance at 750 nm, 10 cm cell				
Lake Water No. 45	-	0.025	0.041	-
	-	0.025	0.030	-
	-	-	-	-
Lake Water + 100 P	0.100	0.138	0.160	0.168
	0.088	0.145	0.170	0.175
	0.100	0.180	0.200	0.200
Lake Water + 1000 N	-	0.037	0.045	-
	-	0.037	0.037	-
	-	0.037	-	-
Lake Water + 100 P + 1000 N	0.208	0.310	0.380	0.418
	0.137	0.422	0.500	0.525
	-	0.318	0.360	0.440
Lake Water + 1000 N + micro	-	0.040	0.052	-
	-	0.032	0.032	-
	-	-	-	-
Lake Water + 100 P + 1000 N + micro	0.061	0.470	0.500	0.505
	0.095	0.460	0.518	0.530
	-	0.430	-	-

- No analysis made

Table A.14. AAP BIOASSAY, LAKE ONTARIO WATER

STATION No. 45

Collected April 1, 1973

CONTENTS	DAYS		
	7	15	17
Absorbance at 750 nm, 10 cm cell			
Lake Water No. 45	0.007	0.022	0.023
	0.007	0.018	0.016
	-	0.016	0.014
Lake Water + 100 P	0.070	0.143	0.154
	0.073	0.145	0.157
	0.058	0.124	0.139
Lake Water + 1000 N	0.012	0.027	0.030
	0.009	0.013	0.015
	-	0.012	0.013
Lake Water + 100 P + 1000 N	0.048	0.173	0.199
	0.053	0.149	0.177
	0.068	0.176	0.216
Lake Water + micro	--	--	--
	--	--	--
	--	--	--
Lake Water + 1000 N + micro	0.013	0.031	0.035
	0.008	0.013	0.017
	-	0.015	0.016
Lake Water + 100 P + 1000 N + micro	0.345	0.500	0.560
	0.363	0.502	0.553
	0.363	0.509	0.561

-- The treatment was not included

- No analysis made

Table A.15. AAP BIOASSAY, LAKE ONTARIO WATER

STATION No. 45

Collected May 2, 1973

CONTENTS	DAYS			
	11	13	18	21
Absorbance at 750 nm, 10 cm cell				
Lake Water No. 45	0.095	0.113	0.130	0.135
	0.119	0.125	0.126	0.125
	0.119	0.132	0.143	0.150
Lake Water + 100 P	0.155	0.173	0.200	0.208
	0.138	0.160	0.200	0.208
	0.165	0.186	0.209	-
Lake Water + 1000 N	0.103	0.111	0.140	0.144
	0.065	0.069	0.080	0.080
	0.112	0.120	0.124	0.133
Lake Water + 100 P + 1000 N	0.228	0.287	0.382	0.420
	0.373	0.465	0.535	0.545
	0.145	0.196	0.281	0.325
Lake Water + micro	--	--	--	--
	--	--	--	--
	--	--	--	--
Lake Water + 1000 N + micro	0.070	0.087	0.120	0.125
	0.109	0.119	0.128	0.134
	0.112	0.120	0.128	0.141
Lake Water + 100 P + 1000 N + micro	0.445	0.545	0.570	0.570
	0.405	0.495	0.545	0.560
	0.455	0.532	0.588	0.595

-- The treatment was not included

- No analysis made

Table A.16. AAP BIOASSAY, LAKE ONTARIO WATER

STATION No. 45

Collected June 15, 1973

CONTENTS	DAYS		
	9	11	14
Absorbance at 750 nm, 10 cm cell			
Lake Water No. 45	0.024	0.036	0.094
	0.006	0.004	0.004
	-	-	-
Lake Water + 25 P	0.148	0.145	0.154
	0.128	0.128	0.144
	0.137	0.135	0.152
Lake Water + 100 P	0.156	0.164	0.172
	0.195	0.204	0.213
	0.155	0.163	0.171
Lake Water + 250 N	0.114	0.043	0.073
	0.114	0.017	0.015
	0.116	0.017	0.018
Lake Water + 1000 N	0.116	0.014	0.023
	0.198	0.234	0.276
	0.114	0.137	0.165
Lake Water + 25 P + 250 N	--	--	--
	--	--	--
	--	--	--
Lake Water + 100 P + 1000 N	0.226	0.233	0.350
	0.219	0.248	0.380
	0.172	0.213	0.365

-- The treatment was not included

- No analysis made

Table A.16. (continued)

CONTENTS	DAYS		
	9	11	14
Lake Water +	--	--	--
1000 N + micro	--	--	--
	--	--	--
Lake Water +	0.502	0.508	0.550
100 P + 1000 N +	0.538	0.558	0.570
micro	0.518	0.528	0.576

-- The treatment was not included

Table A.17. PAAP BIOASSAY

LAKE WATER NEAR NIAGARA RIVER No. 19

Collected August 2, 1972

CONTENTS	DAYS				
	6	8	10	17	20
Absorbance at 750 nm, 10 cm cell					
Lake Water No. 19	0.010	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
Lake Water + 100 P	0.061	0.095	0.080	0.170	0.196
	-	-	0.080	0.108	0.125
	-	-	0.065	0.097	0.112
Lake Water + 1000 N	0.018	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
Lake Water + 100 P + 1000 N	0.120	0.193	0.208	0.365	0.413
	0.099	0.250	0.252	0.450	0.485
	0.121	-	0.192	0.336	0.376
Lake Water + micro	--	--	--	--	--
	--	--	--	--	--
	--	--	--	--	--
Lake Water + 1000 N + micro	0.021	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
Lake Water + 100 P + 1000 N + micro	0.346	0.442	0.430	0.498	0.518
	0.287	0.417	0.411	0.508	0.530
	0.343	-	0.389	0.493	0.521

-- The treatment was not included

- No analysis made

Table A.18. AAP BIOASSAY, LAKE ONTARIO WATER
SAMPLE No. 7 NEAR NIAGARA RIVER
Collected July 23, 1972

CONTENTS	DAYS					
	7	10	12	14	17	19
Absorbance at 750 nm, 10 cm cell						
Lake Water No. 1	0.015	0.010	0.025	0.030		
No. 2	0.015	-	0.020	-		
No. 3	0.015	-	-	-		
Lake Water + 100 P	1 0.075	-	0.095	0.110		
2	0.085	0.095	0.095	0.117		
3	0.050	-	-	-		
Lake Water + 1000 N	1 0.010	-	0.025	0.025		
2	0.015	0.010	-	-		
3	0.012	-	-	-		
Lake Water + 100 P + 1000 N	1 0.130	0.152	0.235	0.300	0.387	0.385
2	0.105	0.142	0.185	0.290	0.385	0.394
3	0.350					
Lake Water + micro	1 0.030	0.027	0.035	0.035		
2	0.020	-	-	-		
3	0.025	-	-	-		
Lake Water + 1000 N + micro	1 0.015					
2	0.015	-	-	-		
3	0.015	-	-	-		
NAAM-P	1 0.017	-	-	-		
2	0.010	-	-	-		
3	-	-	-	-		

- No analysis made

Table A.18. (continued)

CONTENTS		DAYS			
		7	10	12	14
NAAM-P + 100 P	1	0.040	-	0.087	0.113
	2	0.063	0.108	0.142	0.157
	3	0.255	0.518	0.532	0.510
NAAM-N	1	0.020	-	-	-
	2	0.012	0.012	-	-
	3	0.042	0.040	0.062	-
NAAM-N + 1000 N	1	0.152	0.435	0.400	-
	2	0.280	0.438	0.422	0.500
	3	0.235	0.400	0.410	0.500

- No analysis made

Table A.19. AAP BIOASSAY, LAKE ONTARIO WATER
SAMPLE No. 9, OFF ROCHESTER BEACH
Collected July 19, 1972

CONTENTS	DAYS						
	6	8	10	13	15	17	19
	Absorbance at 750 nm, 10 cm cell						
Lake Water No. 9	0.088	0.145	0.170	0.195	0.225	0.232	
	0.078	-	-	0.166	0.200	0.205	
	0.045	0.120	0.190	0.225	0.270	0.266	
Lake Water + 100 P	0.145	0.185	0.225	0.232	-	-	
	0.155	0.185	0.205	0.217	-	-	
	0.140	0.185	0.210	0.217	-	-	
Lake Water + 1000 N	0.090	0.132	0.190	0.252	0.282	0.292	
	0.100	0.192	0.270	0.280	0.335	0.270	
	0.090	0.130	0.192	0.236	0.270	0.255	
Lake Water + 100 P + 1000 N	0.120	0.175	0.237	0.335	0.370	0.430	0.440
	0.175	0.275	0.340	0.410	0.455	0.490	0.475
	0.185	0.290	0.370	0.435	0.500	0.520	0.495
Lake Water + micro	0.210	0.235	0.245	0.250			
	0.200	0.225	0.235	0.245			
	0.185	0.205	0.230	0.240			
Lake Water + 1000 N + micro	0.355	0.430	0.435	0.415			
	0.327	0.400	0.434	0.433			
	0.355	0.415	0.457	0.445			
NAAM-P	0.015	0.020	-	-			
	-	0.010	-	-			
	-	0.007	-	-			

- No analysis made

Table A.19. (continued)

CONTENTS	DAYS					
	6	8	10	13	15	17
NAAM-P + 100 P	0.250	0.490	0.750	0.850	0.900	
	0.160	0.375	0.606	0.800	0.850	
	0.225	0.330	0.550	0.814	0.910	
NAAM-N	-	-	-			
	-	-	-			
	-	-	-			
NAAM-N + 1000 N	0.041	-	-			
	-	-	-			
	-	0.110	0.227	0.400	0.435	0.440

- No analysis made

Table A.20. AAP BIOASSAY, LAKE ONTARIO WATER
SAMPLE No. 17, NEAR GENESEE
Collected August 2, 1972

CONTENTS	DAYS					
	6	8	10	17	20	22
	Absorbance at 750 nm, 10 cm cell					
Lake Water No. 17	-	0.030	-	0.060	0.086	-
	-	0.048	0.040	0.100	0.115	-
	-	-	0.035	0.083	0.097	-
Lake Water + 100 P	-	0.122	0.110	0.175	0.189	-
	-	0.108	-	0.155	0.169	-
	-	-	0.087	0.152	0.162	-
Lake Water + 1000 N	-	0.055	0.042	0.110	0.135	-
	-	0.042	-	0.043	0.061	-
	-	-	0.030	0.065	0.085	-
Lake Water + 100 P + 1000 N	0.092	0.161	0.152	0.334	0.379	0.409
	-	0.105	0.089	0.262	0.300	0.330
	0.076	0.092	0.093	0.275	0.321	0.350
Lake Water + micro + 100 P + 1000 N	0.265	-	-	-	-	-
	0.339	0.710	0.756	1.088	1.068	-
	0.318	0.120	-	0.886	0.996	1.160
Lake Water + 1000 N + micro	0.144	0.206	0.190	0.270	0.294	0.310
	0.145	0.159	0.141	0.230	0.252	0.270
	0.134	0.176	0.134	0.212	0.231	0.240

- No analysis made

Table A.21. AAP TEST, LAKE ONTARIO WATER
SAMPLE No. 20, NEAR TORONTO
Collected August 14, 1972

CONTENTS	DAYS			
	7	9	11	13
Absorbance at 750 nm, 10 cm cell				
Lake Water No. 20	0.003	0.010	0.003	0.002
	0.001	0.012	0.003	0.001
	0.000	0.012	-	0.002
Lake Water + 100 P	0.052	0.080	0.085	0.107
	0.050	0.078	0.086	0.105
	0.096	0.088	0.096	0.118
Lake Water + 1000 N	0.005	0.012	0.006	0.017
	0.000	0.012	0.005	0.003
	0.000	0.012	-	0.003
Lake Water + 100 P + 1000 N	0.031	0.067	0.099	0.124
	0.077	0.132	0.138	0.232
	0.030	0.110	0.092	0.172
Lake Water + micro	0.010	0.025	0.029	0.034
	0.008	0.020	-	0.017
	0.006	0.018	0.009	0.008
Lake Water + 1000 N + micro	0.000	0.010	0.000	-
	0.005	0.018	0.009	0.007
	0.005	0.018	0.009	0.007
Lake Water + 100 P + 1000 N + micro	0.185	0.315	0.395	0.470
	0.200	0.325	0.385	0.450
	0.209	0.325	0.402	0.462

- No analysis made

Table A.21. (continued)

CONTENTS	DAYS			
	7	9	11	13
NAAM-P	0.000	0.005	-	-
	0.000	-	-	0.000
	-	-	-	-
NAAM-N	-	-	-	0.026
	-	-	-	0.000
	-	-	-	0.018
NAAM-N + 1000 N	0.010	0.060	0.180	0.385
	0.017	0.083	0.225	0.416
	0.012	0.083	0.222	0.408

- No analysis made

APPENDIX B

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Table B.1. AAP BIOASSAY, NIAGARA RIVER WATER

SAMPLE No. 6

Collected July 10, 1972

CONTENTS	DAYS					
	7	10	12	14	17	19
	Absorbance at 750 nm, 10 cm cell					
River Water No. 6	0.010					
	0.015	-				
	0.010					
River Water + 100 P	0.065	0.070	0.092	0.105	0.143	0.152
	0.080	0.080	0.144	0.114	0.142	0.157
	0.080	-	0.110	-	-	-
River Water + 1000 N	0.015	-	-	-	-	-
	0.015	-	0.023	-	-	-
	0.020	-	-	-	-	-
River Water + 100 P + 100 N	0.045	-	0.122	-	-	-
	0.125	0.210	0.265	0.295	0.600	0.640
	0.115	0.357	0.437	0.465	0.434	0.364
River Water + micro	0.015	0.025	0.027			
	0.010	-	-			
	0.007	-	-			
River Water + 1000 N + micro	0.015	0.015	0.015			
	0.010	-	-			
	0.017	-	-			
NAAM-P	0.017	-	-			
	-	-	-			
	0.010	0.015	0.007			
NAAM-P + 100P	0.040	-	0.087	0.113		
	0.063	0.108	0.142	0.157		
	0.235	0.318	0.532	0.510		

- No analysis made

Table B.1. (continued)

CONTENTS	DAYS					
	7	10	12	14	17	19
NAAM-N	0.000	-	-			
	0.012	0.012	-			
	0.042	0.042	0.062			
NAAM-N + 1000N	0.152	0.435	0.400	0.500		
	0.280	0.438	0.422	0.500		
	0.235	0.4	0.410	0.500		

- No analysis made

Table B.2. AAP BIOASSAY, NIAGARA RIVER

SAMPLE No. 18

Collected August 2, 1972

CONTENTS	DAYS				
	5	8	10	17	20
Absorbance at 750 nm, 10 cm cell					
River Water No. 18	-	-	0.006	0.000	-
	-	-	-	-	-
	0.011	0.016	0.000	-	-
River Water + 100 P	-	-	0.068	-	-
	-	-	0.070	-	-
	0.084	0.096	0.080	0.146	0.163
River Water + 1000 N	0.013	0.013	0.007	0.025	0.035
	-	-	0.000	-	-
	-	-	-	-	-
River Water + 100 P + 1000 N	0.123	0.171	0.184	0.330	0.381
	0.109	-	0.125	0.326	0.377
	-	-	-	0.142	0.235
River Water + 1000 N + micro	0.024	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
River Water + 100 P + 1000 N + micro	0.372	-	-	-	-
	0.356	-	-	-	-
	0.315	0.455	0.450	0.558	0.568

- No analysis made

Table B.3. AAP TEST, NIAGARA RIVER

SAMPLE No. 27

Collected February 26, 1973

CONTENTS	DAYS				
	8	12	14	16	19
Absorbance at 750 nm, 10 cm cell					
River Water No. 27	0.000	0.000	0.000	-	-
	-	-	-	-	-
	-	-	-	-	-
River Water + 100 P	0.205	0.230	0.230	0.250	0.275
	0.205	0.268	0.250	0.268	0.275
	0.205	0.233	0.235	0.245	0.265
River Water + 1000 N	0.005	-	-	-	-
	0.005	-	-	-	-
	-	-	-	-	-
River Water + 100 P + 1000 N + micro	-	0.300	0.495	0.575	0.650
	-	0.340	0.550	0.630	0.680
	-	0.313	0.490	0.530	0.590
NAAM-P	0.000	-	-	-	-
	-	-	-	-	-
	0.000	-	-	-	-
NAAM-P + P	0.332	0.575	0.590	0.600	0.630
	0.313	0.560	0.570	0.570	0.600
	0.245	0.375	0.450	0.535	0.570

- No analysis made

Table B.4. AAP TEST, NIAGARA RIVER

SAMPLE No. 33 - pH 8.6

Collected March 28, 1973

CONTENTS	DAYS					
	9	13	15	17	20	23
Absorbance at 750 nm, 10 cm cell						
River Water No. 33	0.060	0.063	0.075	-	-	-
	0.050	0.049	0.055	-	-	-
	-	-	0.045	-	-	-
River Water + 100 P	0.100	0.129	0.150	0.164	0.191	0.195
	0.088	0.114	0.135	0.146	0.163	0.183
	0.144	0.168	0.182	0.192	0.200	0.225
River Water + 1000 N	-	0.044	0.050	-	-	-
	0.050	0.044	-	-	-	-
	0.056	-	-	-	-	-
River Water + 100 P + 1000 N	0.118	0.138	0.157	0.181	0.227	0.245
	0.125	0.136	0.170	0.192	0.235	0.333
	0.175	0.174	0.220	0.251	0.310	0.375
River Water + 1000 N + micro	0.030	0.034	0.040	-	-	-
	0.032	0.026	0.029	-	-	-
	0.043	0.039	-	-	-	-
River Water + 100 P + 1000 N + micro	0.196	0.205	0.210	0.219	-	-
	0.156	0.191	0.194	0.194	-	-
	0.156	0.189	0.194	0.200	-	-

- No analysis made

Table B.5. AAP TEST, NIAGARA RIVER

SAMPLE No. 41

Collected April 30, 1973

CONTENTS	DAYS		
	9	11	15
Absorbance at 750 nm, 10 cm cell			
River Water No. 41	0.127	0.153	0.183
	0.050	0.065	0.096
	0.008	0.009	-
River Water + 100 P	0.022	0.067	0.180
	0.067	0.112	0.172
	0.083	0.139	0.188
River Water + 1000 N	0.007	0.015	0.046
	0.005	0.007	0.007
	0.005	0.008	-
River Water + 100 P + 1000 N	0.050	0.093	0.164
	0.067	0.116	0.182
	0.090	0.114	0.152
River Water + 1000 N + micro	0.008	0.016	0.045
	0.006	0.007	0.007
	0.005	0.008	-
River Water + 100 P + 1000 N + micro	0.365	0.334	0.485
	0.455	0.550	0.572
	0.408	0.545	0.489

- No analysis made

Table B.6. ALGAL ASSAY, NIAGARA RIVER
(at Fort Niagara)

SAMPLE No. 50

pH after autoclaving 8.7

Collected May 27, 1973

CONTENTS	DAYS		
	9	11	13
Absorbance at 750 nm, 10 cm cell			
River Water No. 50	0.000	0.013	0.015
	0.000	0.001	0.010
	-	-	0.007
River Water + 100 P	0.260	0.293	-
	0.313	0.337	0.365
	0.258	0.283	0.325
River Water + 1000 N	0.000	0.028	0.052
	-	0.007	0.009
	-	0.007	0.008
River Water + 100 P + 1000 N	0.217	0.267	0.309
	0.180	0.230	0.270
	0.288	0.288	0.380
River Water + 1000 N + micro	0.000	0.007	0.017
	-	0.000	0.007
	-	0.007	-
River Water + 100 P + 1000 N + micro	0.640	0.650	0.690
	0.600	0.630	0.650
	0.640	0.670	0.685

- No analysis made

Table B.7. AAP ALGAL ASSAY, NIAGARA RIVER
(at Fort Niagara)

SAMPLE No. 56

Collected June 15, 1973

CONTENTS	DAYS		
	8	10	13
Absorbance at 750 nm, 10 cm cell			
River Water No. 56	0.050	0.039	0.041
	0.047	0.044	0.039
	0.046	0.045	0.059
River Water + 25 P	0.137	0.138	0.178
	0.157	0.170	0.226
	0.140	0.126	0.140
River Water + 100 P	0.149	0.184	0.246
	0.235	0.271	0.299
	0.164	0.185	0.220
River Water + 250 N	0.055	0.060	0.063
	0.052	0.047	0.041
	0.054	0.043	0.042
River Water + 1000 N	0.056	0.045	0.043
	0.054	0.048	0.046
	0.051	0.039	0.039
River Water + 25 P + 250 N	0.172	0.192	0.224
	0.159	0.174	0.200
	0.173	0.189	0.213
River Water + 100 P + 1000 N	0.136	0.155	0.223
	0.154	0.196	0.380
	0.166	0.189	0.265

Table B.7. (continued)

CONTENTS	DAYS		
	8	10	13
River Water + 1000 N + micro	0.067	0.073	0.129
	0.058	0.055	0.055
	0.059	0.054	0.062
River Water + 100 P + 1000 N + micro	0.500	0.476	0.491
	0.554	0.578	0.600
	0.416	0.480	0.550

Table B.8. AAP TEST, NIAGARA RIVER
(Beaver Island)

SAMPLE No. 32 - pH 8.7

Collected March 28, 1973

CONTENTS	DAYS					
	9	13	15	17	20	23
Absorbance at 750 nm, 10 cm cell						
River Water No. 32	0.015	0.013	0.020	-	-	-
	-	0.011	0.010	-	-	-
	-	0.011	0.010	-	-	-
River Water + 100 P	0.125	0.154	0.162	0.168	0.171	-
	0.070	0.094	0.107	0.116	0.121	-
	0.125	0.146	0.158	0.164	0.158	-
River Water + 1000 N	-	0.012	-	-	-	-
	-	0.010	-	-	-	-
	-	0.011	-	-	-	-
River Water + 100 P + 1000 N	0.060	0.106	0.114	0.131	0.197	0.260
	0.146	0.171	0.200	0.227	0.278	0.368
	0.136	0.158	0.175	0.198	0.215	0.276
River Water + 1000 N + micro	0.000	0.009	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
River Water + 100 P + 1000 N + micro	-	0.449	0.430	-	-	-
	0.472	0.555	0.575	-	-	-
	-	0.445	0.420	-	-	-

- No analysis made

Table B.9. AAP TEST, NIAGARA RIVER

SAMPLE No. 40

Collected April 30, 1973

CONTENTS	DAYS		
	9	11	15
Absorbance at 750 nm, 10 cm cell			
River Water No. 40	0.007	0.009	-
	0.006	0.008	-
	0.007	0.007	-
River Water + 100 P	0.096	0.117	0.150
	0.100	0.125	0.150
	0.088	0.110	0.135
River Water + 1000 N	0.007	0.012	0.041
	0.006	0.007	0.008
	0.006	0.008	0.016
River Water + 100 P + 1000 N	0.158	0.200	0.270
	0.150	0.210	0.270
	0.116	0.160	0.212
River Water + 1000 N + micro	0.007	0.010	0.010
	0.006	0.006	-
	0.007	0.007	-
River Water + 100 P + 1000 N + micro	-	-	-
	0.435	0.512	0.548
	0.450	0.524	0.548

- No analysis made

Table B.10. ALGAL ASSAY, NIAGARA RIVER
(Beaver Island)

SAMPLE No. 49

pH after autoclaving 8.0

Collected May 27, 1973

CONTENTS	DAYS		
	11	13	15
Absorbance at 750 nm, 10 cm cell			
River Water No. 49	0.094	-	-
	0.006	0.012	0.016
	0.004	0.010	0.007
River Water + 100 P	0.118	0.140	0.193
	0.078	0.160	-
	0.145	0.175	0.223
River Water + 1000 N	0.004	0.015	0.035
	0.000	-	0.004
	0.000	-	-
River Water + 100 P + 1000 N	0.107	0.140	0.196
	0.107	0.165	0.215
	0.146	0.180	0.220
River Water + 1000 N + micro	0.000	0.017	0.030
	-	0.007	-
	-	-	0.007
River Water + 100 P + 1000 N + micro	0.575	0.595	0.625
	0.605	0.595	0.605
	0.575	0.638	0.635

- No analysis made

Table B.11. ALGAL ASSAY, NIAGARA RIVER
(Beaver Island)

SAMPLE No. 57

Collected June 15, 1973

CONTENTS	DAYS		
	8	10	13
Absorbance at 750 nm, 10 cm cell			
River Water No. 57	0.034	0.035	0.033
	0.050	0.052	0.053
	0.020	0.021	0.023
River Water + 25 P	0.204	0.248	0.288
	0.148	0.191	0.214
	0.196	0.240	0.270
River Water + 100 P	0.177	0.240	0.288
	0.157	0.196	0.247
	0.237	0.256	0.277
River Water + 250 N	0.052	0.063	0.071
	0.030	0.033	0.050
	0.010	0.007	0.007
River Water + 1000 N	0.026	0.023	0.020
	0.031	0.028	0.030
	0.010	0.008	0.012
River Water + 25 P + 250 N	0.160	0.180	0.231
	0.205	0.248	0.306
	0.196	0.221	0.250
River Water + 100 P + 1000 N	0.225	0.229	0.411
	0.175	0.205	0.298
	0.221	0.262	0.311
River Water + 1000 N + micro	0.044	0.069	0.088
	0.028	0.033	0.031
	0.040	0.043	0.044

Table B.11. (continued)

CONTENTS	DAYS		
	8	10	13
River Water +	0.480	0.600	0.640
100 P + 1000 N +	0.522	0.549	0.591
micro	0.642	0.570	0.594

APPENDIX C

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Table C.1. AAP BIOASSAY, GENESEE RIVER

SAMPLE No. 14

Collected July 20, 1972

CONTENTS	DAYS					
	4	5	6	7	10	11
	Aug.1	Aug.2	Aug.3	Aug.4	Aug.7	Aug.8
Fluorescence at 30X						
River Water No. 14	63	138	-	-	430	360
	70	123	-	460	540	490
	72	192	320	790	400	390
River Water + 100 P	62	132	260	620	930	960
	58	123	-	510	880	900
	61	126	-	640	930	880
River Water + 1000 N	144	135	-	320	310	240
	198	340	430	520	610	550
	159	220	350	610	860	720
River Water + 100 P + 1000 N	189	330	600	1080	1230	1050
	78	-	-	-	450	270
	93	150	-	650	1350	1140
River Water + 1000 N + micro	129	186	550	1500	2550	2220
	126	330	760	1780	2580	2100
	93	201	-	1290	2700	2400
River Water + micro	156	480	700	1020	960	660
	174	670	770	990	1050	810
	132	440	-	930	930	630
NAAM-P	5	-	-	-	-	-
	4	-	-	-	-	-
	5	-	-	-	-	-
NAAM-P + 100 P	114	190	540	1320	330	-
	90	150	320	960	270	-
	93	150	-	940	250	-

- No analysis made

Table C.1. (continued)

CONTENTS	DAYS					
	4	5	6	7	10	11
	Aug.1	Aug.2	Aug.3	Aug.4	Aug.7	Aug.8
NAAM-N	4	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-

- No analysis made

Table C.2. AAP BIOASSAY, GENESEE RIVER

SAMPLE No. 16

Collected August 2, 1972

CONTENTS	DAYS					
	6	8	10	17	20	22
Absorbance at 750 nm, 10 cm cell						
River Water No. 16	0.064	0.117	0.187	0.308	0.330	0.341
	0.047	0.076	-	0.299	0.335	0.354
	-	-	0.092	0.245	0.278	0.306
River Water + 100 P	0.045	0.095	-	0.316	0.346	0.365
	0.043	0.100	0.111	0.324	0.372	0.407
	-	-	0.057	0.326	0.365	0.394
River Water + 1000 N	0.043	0.077	-	0.276	0.310	0.345
	-	0.085	0.073	0.296	0.325	0.342
	-	-	0.069	0.220	0.302	0.356
River Water + 100 P + 1000 N	-	0.095	0.131	0.325	0.370	0.397
	-	0.083	-	0.254	0.334	0.375
	-	-	0.144	0.286	0.325	0.344
River Water + 1000 N + micro	0.282	0.530	-	0.768	0.920	1.380
	0.265	0.600	0.706	0.936	0.948	1.440
	0.282	0.592	0.738	1.000	0.116	1.450
River Water + 100 P + 1000 N + micro	0.374	0.900	1.042	1.356	2.240	2.310
	0.324	1.140	-	1.216	1.860	1.750
	0.304	0.632	0.956	1.220	2.200	2.050

- No analysis made

Table C.3. AAP TEST, GENESEE RIVER

SAMPLE No. 34

Collected March 29, 1973

CONTENTS	DAYS					
	9	13	15	17	20	23
	Absorbance at 750 nm, 10 cm cell					
River Water No. 34	0.169	0.230	0.235	0.249	0.290	0.303
	0.221	0.290	0.310	0.318	0.331	0.343
	0.205	0.269	0.275	0.291	0.309	0.333
River Water + 100 P	0.288	0.450	0.480	0.498	0.541	0.572
	0.333	0.457	0.485	0.514	0.541	0.572
	0.285	0.428	0.450	0.478	0.546	0.552
River Water + 1000 N	0.181	0.246	0.252	0.264	0.289	0.303
	0.230	0.297	0.300	0.307	0.319	0.322
	0.245	0.306	0.308	0.321	0.326	0.338
River Water + 100 P + 1000 N	0.375	0.581	0.620	0.668	0.698	0.730
	0.330	0.453	0.489	0.519	0.560	0.600
	0.336	0.498	0.528	0.559	0.600	0.650
River Water + 1000 N + micro	0.266	0.316	0.325	-	-	-
	0.254	0.306	0.305	-	-	-
	0.263	0.304	0.305	-	-	-
River Water + 100 P + 1000 N + micro	-	0.659	0.685	-	-	-
	0.610	0.764	0.760	-	-	-
	-	0.718	0.745	-	-	-

- No analysis made

Table C.4. AAP TEST, GENESEE RIVER

SAMPLE No. 42

Collected April 30, 1973

CONTENTS	DAYS		
	9	11	15
Absorbance at 750 nm, 10 cm cell			
River Water No. 42	0.190	0.233	0.275
	0.143	0.181	0.225
	0.166	0.244	0.291
River Water + 100 P	0.010	0.020	0.050
	0.155	0.215	0.295
	0.166	0.209	0.275
River Water + 1000 N	0.140	0.200	0.270
	0.123	0.165	0.239
	0.123	0.193	0.295
River Water + 100 P + 1000 N	0.090	0.169	0.239
	0.195	0.325	0.450
	0.120	0.207	0.255
River Water + 1000 N + micro	0.391	0.462	0.448
	0.375	0.450	0.448
	0.347	0.394	0.386
River Water + 100 P + 1000 N + micro	0.464	0.590	0.560
	0.562	0.675	0.700
	0.517	0.620	0.650

Table C.5. ALGAL ASSAY, GENESEE RIVER

SAMPLE No. 51

Collected May 28, 1973

CONTENTS	DAYS		
	9	11	13
Absorbance at 750 nm, 10 cm cell			
River Water No. 51	0.113	0.155	0.192
	0.123	0.155	0.170
	0.132	0.157	0.170
River Water + 100 P	0.045	0.065	0.078
	0.077	0.115	0.139
	-	-	-
River Water + 1000 N	-	-	-
	0.112	0.137	0.115
	0.103	0.143	0.175
River Water + 100 P + 1000 N	0.113	0.143	0.171
	0.138	0.180	0.208
	0.164	0.200	0.236
River Water + 1000 N + micro	0.680	0.700	0.700
	0.665	0.683	0.700
	0.645	0.675	0.650
River Water + 100 P + 1000 N + micro	0.605	0.610	0.650
	0.650	0.675	0.690
	0.640	0.660	0.610

- No analysis made

Table C.6. ALGAL ASSAY, GENESEE RIVER

SAMPLE No. 58

Collected June 16, 1973

CONTENTS	DAYS		
	9	11	13
Absorbance at 750 nm, 10 cm cell			
River Water No. 58	0.254	0.272	0.323
	0.249	0.263	0.329
	0.284	0.308	0.376
River Water + 25 P	0.213	0.259	0.315
	0.301	0.364	0.420
	0.293	0.349	0.419
River Water + 100 P	0.331	0.401	0.479
	0.356	0.402	0.465
	-	-	-
River Water + 250 N	0.288	0.306	0.357
	0.304	0.311	0.375
	0.318	0.326	0.365
River Water + 1000 N	0.266	0.314	0.391
	0.250	0.297	0.375
	0.456	0.458	0.479
River Water + 25 P + 250 N	0.092	0.156	0.216
	0.240	0.271	0.380
	0.269	0.349	0.414
River Water + 100 P + 1000 N	0.329	0.381	0.432
	0.275	0.340	0.531
	0.294	0.354	0.419

- No analysis made

Table C.6. (continued)

CONTENTS	DAYS		
	9	11	13
River Water +	0.461	0.598	0.621
1000 N + micro	0.461	0.541	0.601
	0.501	0.559	0.610
River Water +	0.664	0.682	0.730
100 P + 1000 N +	0.684	0.708	0.815
micro	0.639	0.670	0.720

APPENDIX D

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Table D.1. AAP BIOASSAY, OSWEGO RIVER

SAMPLE No. 11

Collected July 18, 1972

CONTENTS	DAYS					
	6	8	10	13	15	17
Absorbance at 750 nm, 10 cm cell						
River Water No. 11	0.132	0.190	-			
	0.165	0.240	0.232			
	0.193	0.265	0.250			
River Water + 100 P	0.165	0.240	-			
	0.175	0.245	-			
	0.176	0.255	0.250			
River Water + 1000 N	0.190	0.345	-			
	0.182	0.360	-			
	0.255	0.400	0.363			
River Water + 100 P + 1000 N	0.285	0.420	0.450	0.654	0.740	0.630
	0.270	0.432	0.450	-	-	-
	0.287	0.430	0.460	-	-	-
River Water + 1000 N + micro	0.194	0.257	0.282	0.292		
	0.185	0.257	-	-		
	0.212	0.270	0.292	0.307		
River Water + 100 P + 1000 N + micro	0.325	0.435	0.485	0.503		
	0.310	0.425	-	-		
	0.344	0.465	0.490	0.512		
NAAM-P	0.015	0.020	-			
	-	0.010	-			
	-	0.007	-			
NAAM-P + 100 P	0.250	0.490	0.750	0.850	0.900	
	0.160	0.375	0.606	0.800	0.850	
	0.225	0.330	0.550	0.814	0.910	

- No analysis made

Table D.1. (continued)

CONTENTS	DAYS					
	6	8	10	13	15	17
NAAM-N	-	-	-	-	-	-
NAAM-N + 1000 N	0.041	-	-	-	-	-
	-	-	-	-	-	-
	-	0.110	0.227	0.400	0.435	-

- No analysis made

Table D.2. AAP BIOASSAY, OSWEGO RIVER

SAMPLE No. 28

Collected March 2, 1973

CONTENTS	DAYS				
	8	12	14	16	18
	Absorbance at 750 nm, 10 cm cell				
River Water No. 28	0.285	0.342	0.355	0.370	0.410
	0.285	0.360	0.375	0.408	0.440
	0.260	0.340	0.358	0.380	0.425
River Water + 100 P	0.300	0.400	0.418	0.435	0.480
	0.100	0.233	0.345	0.375	0.450
	0.334	0.400	0.420	0.440	0.475
River Water + 1000 N	0.375	0.475	0.520	0.538	0.590
	0.364	0.420	0.450	0.480	0.520
	0.305	0.360	0.400	0.460	0.500
River Water + 100 P + 1000 N	0.385	0.462	0.490	0.530	0.600
	0.400	0.462	0.510	0.550	0.600
	0.400	0.500	0.550	0.600	0.640
River Water + 1000 N + micro	0.458	0.490	0.518	0.545	0.570
	0.520	0.575	0.600	0.610	0.635
	0.425	0.388	0.470	0.490	0.545
River Water + 100 P + 1000 N + micro	0.460	0.500	0.490	0.460	0.550
	0.500	0.570	0.600	0.610	0.645
	0.500	0.600	0.620	0.630	0.660
NAAM-P	0.000	-	-	-	-
	-	-	-	-	-
	0.000	-	-	-	-
NAAM-P + P	0.332	0.575	0.590	0.600	0.630
	0.313	0.560	0.570	0.570	0.600
	0.245	0.375	0.450	0.535	0.570

- No analysis made

Table D.3. AAP BIOASSAY, OSWEGO RIVER

SAMPLE No. 29

Collected March 12, 1973

CONTENTS	DAYS				
	5	8	9	14	22
	Absorbance at 750 nm, 10 cm cell				
River Water No. 29	0.025	0.265	0.306	0.458	-
	-	0.300	0.297	0.400	0.450
	-	0.258	0.281	0.451	0.510
River Water + 100 P	0.060	0.320	0.342	0.448	0.480
	0.067	0.275	0.290	0.442	0.500
	0.065	0.330	0.356	0.467	0.500
River Water + 1000 N	0.085	0.388	0.400	0.490	0.600
	0.098	0.380	0.364	0.484	0.570
	0.083	0.370	0.387	0.552	0.615
River Water + 100 P + 1000 N	0.064	0.362	0.384	0.457	0.545
	0.070	0.375	0.391	0.587	0.700
	0.063	0.350	0.359	0.579	0.690
River Water + 1000 N + micro	0.093	0.425	0.400	0.533	0.585
	0.175	0.470	0.434	0.499	0.500
	0.157	0.500	0.463	0.541	0.585
River Water + 100 P + 1000 N + micro	0.153	0.400	0.392	0.609	0.709
	0.188	0.440	0.359	0.581	0.590
	0.192	0.455	0.355	0.677	0.750
NAAM-P	-	0.025	0.000	0.003	0.000
	-	0.025	0.003	0.007	-
	-	-	0.005	0.007	-
NAAM-P + P (2 µgP/ml)	-	0.070	0.069	0.204	0.400
	-	0.070	0.067	0.213	0.385
	-	0.060	0.052	0.196	0.350

- No analysis made

Table D.4. AAP BIOASSAY, OSWEGO RIVER

SAMPLE No. 30

Collected March 20, 1973

CONTENTS	DAYS				
	5	8	9	14	22
Absorbance at 750 nm, 10 cm cell					
River Water No. 30	-	-	0.022	0.041	0.081
	0.032	-	0.077	0.141	0.230
	-	-	0.066	0.081	0.168
River Water + 100 P	0.018	-	0.059	0.112	0.200
	-	0.066	0.044	0.041	0.075
	-	-	0.046	0.057	0.100
River Water + 1000 N	0.024	0.097	0.074	0.108	0.166
	-	0.084	0.056	0.080	0.125
	-	0.075	0.048	0.058	0.080
River Water + 1000 P + 1000 N	-	0.085	0.063	0.087	0.130
	0.034	0.102	0.075	0.103	0.176
	-	0.090	0.069	0.084	0.137
River Water + 1000 N + micro	0.166	0.600	0.572	0.717	0.720
	0.140	0.410	0.306	0.691	0.720
	0.160	0.530	0.500	0.643	0.700
River Water + 100 P + 1000 N + micro	0.178	0.480	0.318	0.693	0.740
	0.180	0.410	0.303	0.667	0.720
	0.205	0.490	0.409	0.663	0.700
NAAM-P	-	0.025	0.000	0.003	0.000
	-	0.025	0.003	0.007	-
	-	-	0.005	0.007	-
NAAM-P + P (2 µgP/ml)	-	0.070	0.069	0.204	0.400
	-	0.070	0.067	0.213	0.385
	-	0.060	0.052	0.196	0.350

- No analysis made

Table D.5. AAP BIOASSAY, OSWEGO RIVER

SAMPLE No. 31 - pH 8.8

Collected March 28, 1973

CONTENTS	DAYS					
	10	14	16	18	21	24
Absorbance at 750 nm, 10 cm cell						
River Water No. 31	0.160	0.160	0.168	0.175	0.180	0.198
	0.163	0.201	0.219	0.233	0.232	0.250
	0.175	0.213	0.230	0.243	0.254	0.265
River Water + 100 P	0.230	0.304	0.330	0.355	0.383	0.415
	0.255	0.345	0.370	0.460	0.438	0.455
	0.203	0.244	0.280	0.311	0.368	0.390
River Water + 1000 N	0.183	0.223	0.242	0.262	0.293	0.300
	0.215	0.316	0.315	0.324	0.350	0.368
	0.232	0.276	0.280	0.291	0.320	0.325
River Water + 100 P + 1000 N	0.280	0.359	0.370	0.405	0.442	0.510
	0.250	0.317	0.332	0.376	0.381	0.452
	0.262	0.283	0.310	0.350	0.338	0.400
River Water + 1000 N + micro	0.355	0.394	0.385	0.492	0.377	-
	0.350	0.354	0.373	0.364	0.350	-
	0.342	0.363	0.380	0.364	0.364	-
River Water + 100 P + 1000 N + micro	0.615	0.694	0.700	-	-	-
	0.635	0.698	0.700	-	-	-
	-	0.634	0.623	-	-	-

- No analysis made

Table D.6. AAP BIOASSAY, OSWEGO RIVER

SAMPLE No. 35 - pH 8.6

Collected March 29, 1973

CONTENTS	DAYS					
	10	14	16	18	21	24
Absorbance at 750 nm, 10 cm cell						
River Water No. 35	0.350	0.453	0.472	0.471	0.498	0.500
	0.315	0.434	0.438	0.452	0.480	0.482
	0.323	0.415	0.420	0.439	0.458	0.470
River Water + 100 P	0.286	0.392	0.400	-	-	-
	0.330	0.452	0.450	-	-	-
	0.358	0.441	0.439	-	-	-
River Water + 1000 N	0.300	0.463	0.460	-	-	-
	-	0.472	0.478	-	-	-
	0.240	0.279	0.268	-	-	-
River Water + 100 P + 1000 N	0.185	0.316	0.363	0.441	0.510	0.578
	0.400	0.675	0.590	0.645	0.698	0.715
	0.300	0.344	0.381	0.473	0.565	0.615
River Water + 1000 N + micro	0.490	0.603	0.570	-	-	-
	0.430	0.555	0.535	-	-	-
	0.495	0.612	0.572	-	-	-
River Water + 100 P + 1000 N + micro	0.585	0.694	0.655	-	-	-
	0.585	0.697	0.650	-	-	-
	0.620	0.715	0.665	-	-	-

- No analysis made

Table D.7. AAP BIOASSAY, OSWEGO RIVER

SAMPLE No. 43

Collected May 1, 1973

CONTENTS	DAYS		
	9	11	13
Absorbance at 750 nm, 10 cm cell			
River Water No. 43	0.185	0.238	0.270
	0.168	0.205	0.235
	0.120	0.175	0.185
River Water + 100 P	0.182	0.221	0.265
	0.284	0.330	0.385
	0.254	0.310	0.375
River Water + 1000 N	0.228	0.275	0.295
	0.183	0.252	0.288
	0.146	0.214	0.240
River Water + 100 P + 1000 N	0.300	0.354	0.450
	0.280	0.312	0.370
	0.334	0.370	0.478
River Water + 1000 N + micro	0.416	0.433	0.440
	0.425	0.445	0.458
	0.404	0.435	0.449
River Water + 100 P + 1000 N + micro	0.468	0.405	0.510
	0.475	0.395	0.578
	0.496	0.384	0.578

Table D.8. AAP BIOASSAY, OSWEGO RIVER

SAMPLE No. 52

Collected May 28, 1973

CONTENTS	DAYS		
	9	11	13
Absorbance at 750 nm, 10 cm cell			
River Water No. 52	0.250	0.290	0.330
	0.303	0.335	0.375
	0.315	0.335	0.375
River Water + 100 P	0.343	0.365	0.420
	0.350	0.370	0.425
	0.308	0.330	0.385
River Water + 1000 N	0.183	0.208	0.215
	0.278	0.333	0.390
	0.250	0.288	0.325
River Water + 100 P + 1000 N	0.370	0.395	0.458
	0.316	0.340	0.405
	0.350	0.385	0.435
River Water + 1000 N + micro	0.565	0.600	0.610
	0.565	0.610	0.610
	0.580	0.610	0.620
River Water + 100 P + 1000 N + micro	0.650	0.680	0.700
	0.470	0.490	0.610
	0.665	0.685	0.700

Table D.9. AAP BIOASSAY, OSWEGO RIVER

SAMPLE No. 54

Collected May 31. 1973

CONTENTS	DAYS			
	4	5	6	7
Fluorescence at 1 X				
River Water No. 54	4.75	5.15	5.32	6.53
	3.35	3.45	4.08	4.52
	5.71	5.38	5.44	6.12
River Water + 25 P	5.00	4.58	5.39	5.75
	4.45	4.90	5.45	5.52
	4.55	5.11	6.32	7.55
River Water + 100 P	5.12	5.35	6.49	7.79
	3.80	4.92	6.28	7.31
	2.70	4.05	6.15	7.20
River Water + 250 N	5.57	5.17	5.95	6.30
	4.78	5.17	5.40	5.50
	4.68	4.80	5.87	6.21
River Water + 1000 N	6.11	6.40	8.39	11.30
	5.03	6.34	8.13	9.00
	5.95	5.45	7.65	8.22
River Water + 25 P + 250 N	5.00	5.02	5.58	6.07
	4.96	4.69	5.55	6.02
	5.25	4.83	5.85	6.18
River Water + 100 P + 1000 N	5.09	5.65	7.71	8.89
	5.10	6.17	8.72	10.60
	4.47	5.45	7.75	8.92

Table D.9. (continued)

CONTENTS	DAYS			
	4	5	6	7
River Water + 1000 N + micro	6.13	6.40	8.10	8.85
	6.05	6.50	8.25	9.05
	6.12	6.87	8.35	8.72
River Water + 100 P + 1000 N + micro	8.95	10.50	12.50	13.60
	9.56	11.80	16.20	16.50
	9.60	12.30	12.00	15.60

Table D.10. AAP BIOASSAY, OSWEGO RIVER

SAMPLE No. 55

Collected June 4, 1973

CONTENTS	DAYS			
	4	5	6	7
Fluorescence at 1 X				
River Water No. 55	4.87	4.93	5.69	5.88
	3.55	3.67	4.83	5.07
	4.75	4.91	5.68	5.93
River Water + 25 P	2.55	3.24	4.13	5.00
	3.70	4.57	5.93	6.33
	3.25	4.12	5.65	6.45
River Water + 100 P	3.28	4.10	5.95	7.19
	3.47	4.40	6.34	7.10
	3.15	3.75	5.66	6.32
River Water + 250 N	1.68	2.14	2.96	3.48
	1.81	2.26	3.10	3.42
	3.30	3.97	3.88	6.01
River Water + 1000 N	2.35	2.80	3.88	4.57
	3.55	4.03	5.63	6.05
	3.15	3.49	4.68	4.85
River Water + 25 P + 250 N	3.68	4.13	5.57	6.25
	2.88	3.47	4.73	5.28
	2.88	3.32	4.51	4.71
River Water + 100 P + 1000 N	2.12	2.34	3.38	3.62
	3.18	3.35	4.62	4.89
	2.43	2.58	3.52	3.96

Table D.10. (continued)

CONTENTS	DAYS			
	4	5	6	7
River Water +	6.50	6.52	8.99	10.90
1000 N + micro	7.08	7.61	9.30	9.32
	6.71	7.40	9.45	9.02
River Water +	9.30	10.70	12.80	12.70
100 P + 1000 N +	9.60	11.40	13.20	12.80
micro	9.60	11.40	12.20	11.40

Table D.11. AAP BIOASSAY, OSWEGO RIVER

SAMPLE No. 59

Collected June 17, 1973

CONTENTS	DAYS		
	8	10	12
Absorbance at 750 nm, 10 cm cell			
River Water No. 59	0.181	0.309	0.285
	0.296	0.345	0.430
	0.193	0.270	0.360
River Water + 25 P	0.214	0.300	0.387
	0.149	0.191	0.329
	0.137	0.176	0.449
River Water + 100 P	0.234	0.302	0.462
	0.223	0.308	0.391
	0.127	0.192	0.273
River Water + 250 N	0.136	0.181	0.290
	0.235	0.293	0.361
	0.337	0.428	0.488
River Water + 1000 N	0.257	0.375	0.419
	0.160	0.304	0.452
	0.208	0.314	0.440
River Water + 25 P + 250 N	0.230	0.320	0.442
	0.228	0.305	0.364
	0.221	0.362	0.410
River Water + 100 P + 1000 N	0.248	0.379	0.571
	0.244	0.334	0.450
	0.134	0.255	0.597

Table D.11 (continued)

CONTENTS	DAYS		
	8	10	12
River Water +	0.579	0.589	0.657
1000 N + micro	0.543	0.574	0.627
	0.515	0.562	0.626
River Water +	0.676	0.720	0.746
100 P + 1000 N +	0.653	0.780	0.807
micro	0.575	0.646	0.698

APPENDIX E

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Table E.1. AAP BIOASSAY, BLACK RIVER

SAMPLE No. 12

Collected July 19, 1972

CONTENTS	DAYS				
	6	8	10	13	15
Absorbance at 750 nm, 10 cm cell					
River Water No. 12	0.030	0.030	-		
	0.030	0.035	0.030		
	-	-	-		
River Water + 100 P	0.070	0.082	0.080		
	0.072	0.080	0.080		
	-	0.080	-		
River Water + 1000 N	0.030	0.035	0.035		
	-	-	-		
	-	-	-		
River Water + 100 P + 1000 N	0.275	0.425	0.418		
	0.288	0.360	0.375		
	0.273	0.390	0.385		
River Water + 1000 N + micro	-	0.050	-		
	-	0.040	-		
	0.045	0.062	0.064		
River Water + 100 P + 1000 N + micro	-	0.050	0.043		
	-	0.055	-		
	-	0.060	0.050		
NAAM-P	0.015	0.020	-		
	-	0.010	-		
	-	0.007	-		

- No analysis made

Table E.1. (continued)

CONTENTS	DAYS				
	6	8	10	13	15
NAAM-P + 100 P	0.250	0.490	0.750	0.850	0.900
	0.160	0.375	0.606	0.800	0.850
	0.225	0.330	0.550	0.814	0.910
NAAM-N	-	-	-		
	-	-	-		
	-	-	-		
NAAM-N + 1000 N	0.041	-	-	-	-
	-	-	-	-	-
	-	0.110	0.227	0.400	0.435

- No analysis made

Table E.2. AAP BIOASSAY, BLACK RIVER

SAMPLE No. 25

Collected August 28, 1973

CONTENTS	DAYS	
	6	13
Absorbance at 750 nm, 10 cm cell		
River Water No. 25	0.144	0.21
	0.160	0.20
	0.155	0.205
River Water + 1m 4 mg/ml P	0.155	0.205
	0.180	0.187
	0.148	0.205
River Water + 1m 40 mg/ml N	0.175	0.225
	0.185	0.250
	0.177	0.232
River Water + P + N	0.160	0.464
	0.158	0.400
	0.205	0.490
River Water + N + 1ml 40xmicro	0.135	0.200
	0.135	0.195
	0.146	0.205
River Water + P + N + Micro	0.266	0.390
	0.300	0.472
	0.355	0.448

Table E.3. AAP BIOASSAY, BLACK RIVER

SAMPLE No. 36 - pH 7.5

Collected March 29, 1973

CONTENTS	DAYS		
	10	14	16
Absorbance at 750 nm, 10 cm cell			
River Water No. 36	0.115	0.139	0.125
	0.115	0.141	0.120
	0.115	0.138	0.115
River Water + 100 P	0.282	0.334	0.315
	0.282	0.334	0.315
	0.278	0.344	0.325
River Water + 1000 N	0.103	0.136	0.120
	0.119	0.144	0.120
	0.110	0.135	0.112
River Water + 100 P + 1000 N	0.370	0.510	0.512
	0.480	0.591	0.553
	0.388	0.556	0.552
River Water + 1000 N + micro	0.090	0.118	0.108
	0.098	0.119	0.095
	0.112	0.114	0.092
River Water + 100 P + 1000 N + micro	0.290	0.454	0.468
	0.515	0.610	0.560
	0.515	0.607	0.552

Table E.4. AAP TEST, BLACK RIVER

SAMPLE No. 44

Collected May 1, 1973

CONTENTS	DAYS		
	9	11	15
Absorbance at 750 nm, 10 cm cell			
River Water No. 44	0.182	0.205	0.235
	0.247	0.270	0.290
	0.170	0.189	0.195
River Water + 100 P	0.234	0.255	0.280
	0.232	0.250	0.280
	0.222	0.245	0.263
River Water + 1000 N	0.190	0.208	0.240
	0.186	0.198	0.216
	0.179	0.195	0.210
River Water + 100 P + 1000 N	0.460	0.520	0.600
	0.395	0.430	0.525
	0.475	0.532	0.600
River Water + 1000 N + micro	0.187	0.206	0.230
	0.182	0.198	0.213
	0.150	0.171	0.185
River Water + 100 P + 1000 N + micro	0.422	0.458	0.535
	0.391	0.440	0.488
	0.570	0.547	0.600

Table E.5. ALGAL ASSAY, BLACK RIVER

SAMPLE No. 53

Collected May 31, 1973

CONTENTS	DAYS		
	9	11	13
Absorbance at 750 nm, 10 cm cell			
River Water No. 53	0.175	0.200	0.215
	0.138	0.148	0.152
	0.164	0.173	0.179
River Water + 100 P	0.179	0.205	0.206
	0.162	0.190	0.192
	0.171	0.200	0.203
River Water + 1000 N	0.180	0.197	-
	0.180	0.167	-
	0.180	0.167	0.180
River Water + 100 P + 1000 N	0.503	0.538	0.570
	0.503	0.545	0.570
	0.518	0.545	0.570
River Water + 1000 N + micro	0.145	0.168	0.185
	0.124	0.135	0.140
	0.153	0.168	0.172
River Water + 100 P + 1000 N + micro	0.478	0.519	0.550
	0.555	0.580	0.600
	0.500	0.549	0.570

- No analysis made

Table E.6. ALGAL ASSAY, BLACK RIVER

SAMPLE No. 60

Collected June 17, 1973

CONTENTS	DAYS		
	9	11	14
Absorbance at 750 nm, 10 cm cell			
River Water No. 60	0.110	0.123	0.136
	0.225	0.225	0.244
	0.223	0.226	0.251
River Water + 25 P	0.245	0.239	0.270
	0.225	0.231	0.257
	0.231	0.226	0.246
River Water + 100 P	0.236	0.235	0.252
	0.235	0.233	0.255
	0.228	0.229	0.252
River Water + 250 N	0.311	0.295	0.313
	0.307	0.308	0.339
	0.316	0.310	0.360
River Water + 1000 N	0.332	0.335	0.351
	0.342	0.341	0.370
	0.327	0.335	0.329
River Water + 25 P + 250 N	0.327	0.330	0.359
	0.337	0.340	0.371
	0.327	0.340	0.365
River Water + 100 P + 1000 N	0.488	0.541	0.636
	0.506	0.551	0.590
	0.521	0.539	0.606

Table E.6. (continued)

CONTENTS	DAYS		
	9	11	14
River Water + 1000 N + micro	0.331	0.351	0.392
	0.341	0.360	0.370
	0.357	0.355	0.389
River Water + 100 P + 1000 N + micro	0.318	0.315	0.330
	0.299	0.327	0.365
	0.317	0.315	0.325